# Product Introduction

## Token (TPSRH) shielded high current inductor is superior to be high Saturation for SMT.

**Features :**

- Magnerically shielded construction.
- Excellent solderabillity and high heat resistance.
- Various high power inductors are superior to be high Saturation for surface mounting.

**Applications :**

- Power supply for VCRS; OA equipment Digital camera, LCD television set notebook PC, portable communication Equipments, DC/DC converters, etc.


TPSRH103R, TPSRH104R, and TPSRH105R provide wide inductance range from 1.20μH to 1000.00μH, low direct current resistance (DCR) down to 0.008Ω, and large current up to IDC 10.0A. These devices are directly connected electrode on ferrite core with excellent property and high saturation for surface mounting.

Token enhances SMD wirewound (TPSRH-63R/103R/104R/105R) family inductors covering complete footprint with profile from 1.8 mm to 8.0 mm, inductance from 1.00 μH to 1000.00 μH, low DCR, and Rated Current uo to 8.5A.

Token (TPSRH-63R/103R/104R/105R) with wire wound and magnetically shielded construction offers a variety of characteristics and high performace. Customers can select the optimum characteristics by choosing from footprint, DCR, and a wide range of inductance values and tolerances with some types offering magnetic shielding.

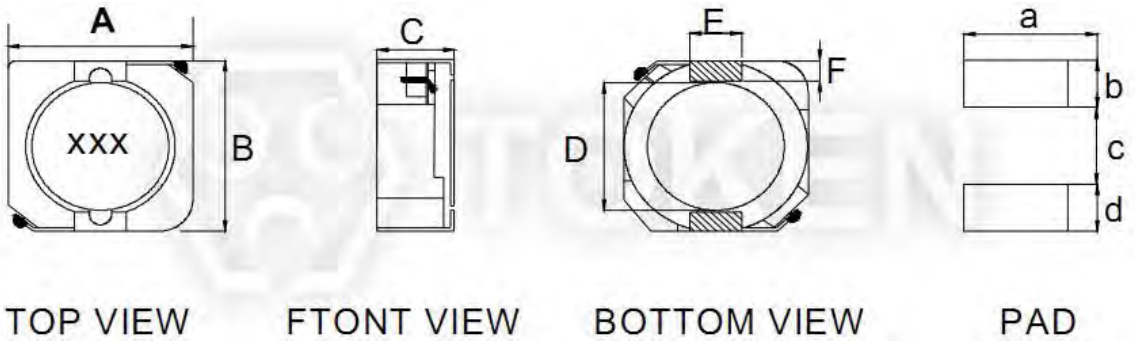
The series is lead-free and RoHS compliant. Custom parts are available on request. Token will also produce devices outside these specifications to meet specific customer requirements.

Application of specific designs also available including different inductance and frequency specifications adjusted to requirements. Please contact our sales or link to Token official website "SMD Power Inductors" for more information.

# Dimensions

## Dimensions & Configurations (Unit: mm) (TPSRH-63R/103R/104R/105R)

| Type | A±0.3 | B±0.3 | C (Max) | D (Red) | E (Red) | F (Red) | a (Red) | b (Red) | c (Red) | d (Red) |
|---|---|---|---|---|---|---|---|---|---|---|
| **TPSRH63R** | 5.9 | 6.0 | 3.0 | 4.7 | 2.0 | 0.6 | 2.6 | 1.0 | 4.6 | 1.0 |
| **TPSRH103R** | 10 | 10.1 | 3.0 | 7.7 | 3.0 | 1.2 | 3.6 | 1.7 | 7.3 | 1.7 |
| **TPSRH104R** | 10 | 10.1 | 4.0 | 7.7 | 3.0 | 1.2 | 3.6 | 1.7 | 7.3 | 1.7 |
| **TPSRH105R** | 10 | 10.1 | 5.0 | 7.7 | 3.0 | 1.2 | 3.6 | 1.7 | 7.3 | 1.7 |




**SMD Shielded High Current Inductors (TPSRH-63R/103R/104R/105R)**
**Dimensions (Unit: mm)**

- **Note: Design as Customer's Requested Specifications.**

# TPSRH-63R/103R/104R/105R

## Electrical Characteristics (TPSRH-63R/103R/104R/105R)

| Inductance (µH) | | TPSRH63R | | TPSRH103R | | TPSRH104R | | TPSRH105R | |
|---|---|---|---|---|---|---|---|---|---|
| Marking | L (µH) | DCR (Ω) Max. | IDC (A) | DCR (Ω) Max. | IDC (A) | DCR (Ω) Max. | IDC (A) | DCR (Ω) Max. | IDC (A) |
| **1R2** | 1.2 | | | 0.012 | 4.80 | 0.016 | 5.40 | 0.008 | 8.50 |
| **1R5** | 1.5 | | | | | | | 0.008 | 8.30 |
| **2R2** | 2.2 | 0.018 | 2.60 | 0.018 | 4.10 | 0.02 | 4.95 | 0.011 | 7.50 |
| **3R3** | 3.3 | 0.020 | 2.30 | 0.019 | 3.90 | 0.025 | 4.35 | 0.013 | 6.50 |
| **3R9** | 3.9 | | | 0.022 | 3.76 | 0.026 | 4.05 | | |
| **4R7** | 4.7 | 0.031 | 1.85 | 0.030 | 3.20 | 0.034 | 4.00 | 0.016 | 4.80 |
| **6R8** | 6.8 | | | 0.036 | 3.10 | 0.035 | 3.50 | 0.024 | 4.40 |
| **8R2** | 8.2 | 0.050 | 1.50 | 0.039 | 3.00 | | | 0.026 | 4.05 |
| **100** | 10 | 0.054 | 1.30 | 0.047 | 2.80 | 0.045 | 3.15 | 0.027 | 3.45 |
| **120** | 12 | 0.072 | 1.2 | 0.057 | 2.25 | 0.059 | 3.00 | 0.032 | 3.40 |
| **150** | 15 | 0.082 | 1.10 | 0.063 | 2.22 | 0.072 | 2.90 | 0.043 | 2.83 |
| **180** | 18 | 0.102 | 1.05 | 0.081 | 1.90 | 0.077 | 2.70 | 0.048 | 2.62 |
| **220** | 22 | 0.119 | 0.95 | 0.095 | 1.78 | 0.086 | 2.50 | 0.059 | 2.44 |
| **270** | 27 | 0.146 | 0.85 | 0.110 | 1.63 | 0.104 | 2.10 | 0.078 | 2.24 |
| **330** | 33 | 0.183 | 0.76 | 0.135 | 1.32 | 0.133 | 2.00 | 0.056 | 1.88 |
| **390** | 39 | 0.210 | 0.68 | 0.163 | 1.18 | 0.148 | 1.90 | 0.109 | 1.70 |
| **470** | 47 | 0.23 | 0.60 | 0.196 | 1.16 | 0.174 | 1.80 | 0.122 | 1.56 |
| **560** | 56 | 0.305 | 0.55 | 0.230 | 1.10 | 0.216 | 1.62 | 0.145 | 1.39 |
| **680** | 68 | 0.351 | 0.48 | 0.27 | 1.04 | 0.299 | 1.35 | 0.17 | 1.36 |
| **820** | 82 | 0.419 | 0.45 | 0.310 | 0.94 | 0.325 | 1.26 | 0.196 | 1.20 |
| **101** | 100 | 0.520 | 0.40 | 0.38 | 0.84 | 0.403 | 1.17 | 0.230 | 1.09 |
| **121** | 120 | | | 0.480 | 0.76 | 0.490 | 1.05 | 0.298 | 1.00 |
| **151** | 150 | | | 0.560 | 0.74 | 0.611 | 1.00 | 0.410 | 0.91 |
| **181** | 180 | | | 0.640 | 0.68 | 0.660 | 0.80 | 0.420 | 0.84 |
| **221** | 220 | | | 0.78 | 0.66 | 0.939 | 0.70 | 0.500 | 0.75 |
| **271** | 270 | | | 0.960 | 0.58 | 1.170 | 0.60 | 0.570 | 0.68 |
| **331** | 330 | | | 1.18 | 0.51 | 1.30 | 0.53 | 0.700 | 0.60 |
| **391** | 390 | | | 1.48 | 0.49 | 1.56 | 0.45 | 0.68 | 0.57 |
| **471** | 470 | | | 1.82 | 0.45 | 1.76 | 0.40 | 1.03 | 0.50 |
| **561** | 560 | | | | | | | 1.21 | 0.47 |
| **681** | 680 | | | | | | | 1.52 | 0.43 |
| **821** | 820 | | | | | | | 1.85 | 0.39 |
| **102** | 1000 | | | | | | | 2.05 | 0.35 |

**Note:**

- **Measuring Frequency. L:1.0 uH ~82uH(100KHz/0.25v) 100uH Above(1KHz/0.3v).**
- **IDC:The current when the inductance becomes 35% lower than its nominal value. and temperature rise 40°C Δt=40°C (ta=20°C).**

# Order Codes

## Order Codes (TPSRH-63R/103R/104R/105R)

| TPSRH63R | - | 1R2 | - | M |
|---|---|---|---|---|

| Part Number |
|---|
| TPSRH63R |
| TPSRH103R |
| TPSRH104R |
| TPSRH105R |

| Inductance | |
|---|---|
| 1R2 | 1.20μH |
| 100 | 10.00μH |
| 101 | 100.00μH |
| 102 | 1000.00μH |

| Tolerance | |
|---|---|
| K | 10% |
| K | ±10% |
| L | ±15% |
| M | ±20% |
| P | ±25% |
| N | ±30% |